## Class 11: AlphaFold

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## **Table of contents**

Custom Analysis of Resulting Models	
Residue Conservation from Alignment File	
Here we read the results from AlphaFold and try to interpret all the models and quality score metrics:	
library(bio3d)	
pth <- "dimer_23119"	
<pre>pdb.files &lt;-list.files(path = pth, full.names=TRUE, pattern=".pdb")</pre>	
Align and superpose all these models	
<pre>file.exists(pdb.files)</pre>	
[1] TRUE TRUE TRUE TRUE	
<pre>pdbs &lt;- pdbaln(pdb.files, fit=TRUE, exefile="msa")</pre>	
Reading PDB files: dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_0000000000000000000000000000000000	0.pdb
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_00	_
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_00	_

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb

#### Extracting sequences

pdb/seq: 2 name: dimer_2311 pdb/seq: 3 name: dimer_2311 pdb/seq: 4 name: dimer_2311	9/dimer_23119_unrelaxed_rank_001_alphafold2_multime 9/dimer_23119_unrelaxed_rank_002_alphafold2_multime 9/dimer_23119_unrelaxed_rank_003_alphafold2_multime 9/dimer_23119_unrelaxed_rank_004_alphafold2_multime 9/dimer_23119_unrelaxed_rank_005_alphafold2_multime	er_v3_model_5 er_v3_model_4 er_v3_model_1
[Truncated_Name:1]dimer_2311 [Truncated_Name:2]dimer_2311 [Truncated_Name:3]dimer_2311 [Truncated_Name:4]dimer_2311 [Truncated_Name:5]dimer_2311	1	;I ;I ;I
[Truncated_Name:1]dimer_2311 [Truncated_Name:2]dimer_2311 [Truncated_Name:3]dimer_2311 [Truncated_Name:4]dimer_2311 [Truncated_Name:5]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF ************************************	rP rP rP rP
[Truncated_Name:1]dimer_2311 [Truncated_Name:2]dimer_2311 [Truncated_Name:3]dimer_2311 [Truncated_Name:4]dimer_2311 [Truncated_Name:5]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI **********************************	CG CG CG
[Truncated_Name:1]dimer_2311 [Truncated_Name:2]dimer_2311 [Truncated_Name:3]dimer_2311	151	98

```
[Truncated_Name:4]dimer_2311
                              GFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF
[Truncated_Name:5]dimer_2311
                              GFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF
                               **************
                            151
                                                                             198
Call:
  pdbaln(files = pdb.files, fit = TRUE, exefile = "msa")
Class:
  pdbs, fasta
Alignment dimensions:
  5 sequence rows; 198 position columns (198 non-gap, 0 gap)
+ attr: xyz, resno, b, chain, id, ali, resid, sse, call
pdbs$b
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 91.44
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 87.06
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 91.25
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 86.62
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 18.77
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 96.06
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 94.00
dimer_23119/dimer_23119 unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 93.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 91.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 21.09
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.38
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 95.69
```

dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 94.12 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb 91.50 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb 25.69

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb 97.38 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb 95.44 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 93.38 dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 91.75 dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 27.73

[,1]

[,2]

```
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 95.62
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 93.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 32.16
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 96.94
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 94.31
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 90.06
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 84.69
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 34.03
                                                                                         [,7]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 94.56
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 88.75
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 84.25
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 38.62
                                                                                         [,8]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.81
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 90.38
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 88.38
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 42.75
                                                                                         [,9]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.62
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.69
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 95.62
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 95.12
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 49.12
                                                                                        [,10]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.38
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 95.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 60.19
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.81
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 67.12
                                                                                        [,12]
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb 98.19 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb 96.44

[,5]

```
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.06
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.75
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.31
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 79.44
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.12
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 82.75
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.19
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 87.44
                                                                                        [,15]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.31
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.75
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 89.81
                                                                                        [,16]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 90.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 89.88
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 88.69
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 90.56
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 82.06
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 89.25
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 87.75
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 89.38
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 89.38
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 81.44
                                                                                        [,18]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 94.31
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 93.00
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 92.75
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 94.44
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 87.50
                                                                                        [,19]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 96.56
```

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.38
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 84.81
                                                                                        [,20]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 96.94
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.38
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.31
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 82.88
                                                                                        [,21]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 80.00
                                                                                        [,22]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.69
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.19
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 79.56
                                                                                        [,23]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 70.06
                                                                                        [,24]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.81
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.50
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 66.38
                                                                                        [,25]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.69
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 60.59
                                                                                        [,26]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.81
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.50
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb 96.19 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 95.75

```
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.12
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 54.81
                                                                                        [,27]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.88
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.81
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.94
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 57.78
                                                                                        [,28]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 96.69
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.19
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 64.12
                                                                                        [,29]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.25
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 96.50
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.75
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 69.81
                                                                                        [,30]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.19
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.38
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.56
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 79.06
                                                                                        [,31]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.69
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.56
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 86.62
                                                                                        [,32]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.19
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 84.50
                                                                                        [,33]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.06
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 98.31

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.38
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 86.88
                                                                                        [,34]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.56
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.00
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.62
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 83.25
                                                                                        [,35]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 95.88
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 95.81
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 95.88
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 95.69
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 86.81
                                                                                        [,36]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 96.44
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 95.31
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 95.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 88.12
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 92.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 91.94
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 91.88
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 93.12
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 89.06
                                                                                        [,38]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 95.88
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 95.00
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 94.69
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 95.69
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 91.38
                                                                                        [,39]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 92.19
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 90.25
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 90.50
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 91.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 87.62
                                                                                        [,40]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 92.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 91.25
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 91.56
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb 92.69

```
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 88.44
                                                                                        [,41]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 96.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.06
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.12
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 95.94
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 92.25
                                                                                        [,42]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.94
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.69
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 94.38
                                                                                        [,43]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 94.94
                                                                                        [,44]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.25
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.19
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 94.25
                                                                                        [,45]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 89.81
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.69
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 82.50
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.19
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 95.06
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.62
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.75
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb 73.81

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 94.25
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 60.88
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 90.81
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 86.19
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 93.25
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 91.75
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 57.16
                                                                                        [,50]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 89.75
dimer 23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 83.69
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 92.12
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 89.81
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 52.78
                                                                                        [,51]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 85.88
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 82.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 89.94
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 86.31
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 51.19
                                                                                        [,52]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 90.12
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 88.75
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 93.38
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 91.69
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 58.28
                                                                                        [,53]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 94.19
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 92.94
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.06
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 94.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 67.00
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 95.25
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 93.38
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 96.56
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 95.31
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 70.06
                                                                                        [,55]
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb 94.12 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb 90.38 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 95.00

[,48]

```
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.81
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 82.56
                                                                                        [,56]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 88.75
                                                                                        [,57]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.69
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.75
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 94.56
                                                                                        [,58]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.88
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.75
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.75
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 95.38
                                                                                        [,59]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.06
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.06
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 94.88
                                                                                        [,60]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.69
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.50
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.50
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 93.19
                                                                                        [,61]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.31
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.44
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.56
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 91.19
                                                                                        [,62]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.06
```

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.00
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 91.94
                                                                                        [,63]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.81
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 89.31
                                                                                        [,64]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.50
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.19
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.25
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.19
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 86.62
                                                                                        [,65]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.25
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 84.25
                                                                                        [,66]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.06
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.69
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.94
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 76.12
                                                                                        [,67]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 95.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 92.94
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 94.50
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 94.94
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 69.00
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 94.88
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 92.62
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 94.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 94.62
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 70.31
                                                                                        [,69]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.62
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb 97.50 dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 97.75

```
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.69
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 74.75
                                                                                        [,70]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.19
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.62
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 78.44
                                                                                        [,71]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 81.31
                                                                                        [,72]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.25
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.00
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.25
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.25
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 84.94
                                                                                        [,73]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.56
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.44
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 88.50
                                                                                        [,74]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.38
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.19
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 91.69
                                                                                        [,75]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.81
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.75
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 92.69
                                                                                        [,76]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.81
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.56
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb 98.75

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 91.00
                                                                                        [,77]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.56
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 91.62
                                                                                        [,78]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.50
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 96.69
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.44
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 84.88
                                                                                        [,79]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 95.81
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 94.12
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 95.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 74.62
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 96.38
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 94.88
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.69
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 73.00
                                                                                        [,81]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 94.31
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 92.44
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 95.12
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 93.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 64.06
                                                                                        [,82]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 96.19
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 94.88
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 95.62
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 94.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 70.62
                                                                                        [,83]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.38
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.88
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.12
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb 97.94

```
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 82.12
                                                                                        [,84]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.69
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.00
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 76.94
                                                                                        [,85]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.88
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.62
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 78.31
                                                                                        [,86]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.75
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.50
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.25
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 76.50
                                                                                        Γ.87]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.81
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 98.31
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 67.88
                                                                                        [,88]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.75
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.06
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.44
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 76.25
                                                                                        [,89]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.62
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.25
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 75.94
                                                                                        [.90]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.56
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 98.12
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.75
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 70.12
```

```
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.31
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.88
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.19
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 66.88
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.44
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.88
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 98.12
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 97.50
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 69.38
                                                                                        [,93]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.88
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.31
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 63.88
                                                                                        [,94]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 97.19
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 96.31
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.94
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 95.25
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 52.59
                                                                                        [,95]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb 98.06
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.19
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 97.50
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.56
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 48.06
                                                                                        [,96]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.50
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb 97.94
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.81
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb 96.88
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 39.09
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 98.44
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 97.38
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 97.12
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 96.69
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 34.72
```

[,91]

[,98]

```
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 97.50
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 95.62
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb 96.81
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 94.81
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb 30.61
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb 93.19
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb 89.25
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb 95.62
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb 91.00
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb 26.33
                                                                                        [,100]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                        91.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         87.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         91.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         87.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         18.9
                                                                                        [,101]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         96.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         93.9
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         93.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         92.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         21.2
                                                                                        [,102]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.3
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         95.5
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         93.9
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         91.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         25.5
                                                                                        [,103]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         95.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         93.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         92.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         27.5
                                                                                        [,104]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         95.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         94.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         31.9
                                                                                        [,105]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         96.9
```

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dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         94.2
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         89.6
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         85.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         33.9
                                                                                        [,106]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.5
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         94.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         88.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         85.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         38.4
                                                                                        [,107]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         90.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         89.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         42.5
                                                                                        [,108]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         95.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         95.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         48.9
                                                                                        [,109]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.7
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         96.4
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         96.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         60.0
                                                                                        [,110]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         67.1
                                                                                        [,111]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         79.5
                                                                                        [,112]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.1
```

```
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         82.8
                                                                                        [,113]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         87.5
                                                                                        [,114]
                                                                                         97.7
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.6
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         89.7
                                                                                        [,115]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         90.9
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         89.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         88.5
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         90.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         81.8
                                                                                        [,116]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         89.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         87.7
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         89.2
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         89.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         81.1
                                                                                        [,117]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         94.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         92.9
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         92.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         94.3
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         87.3
                                                                                        [,118]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         96.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         95.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         84.7
                                                                                        [,119]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.7
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         96.9
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.3
```

```
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      82.6
                                                                                      [,120]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.5
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                       98.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       97.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       97.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      80.0
                                                                                      [,121]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.7
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                       98.5
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                       98.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       98.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      79.6
                                                                                      [,122]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                       98.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       98.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       98.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      70.0
                                                                                      [,123]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                       98.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       98.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       98.1
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                      66.3
                                                                                      [,124]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.6
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                       98.4
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       98.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       97.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      60.8
                                                                                      [,125]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                       98.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       98.1
54.9
                                                                                      [,126]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      97.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                       96.9
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                       96.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       96.8
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb

```
[,127]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         97.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         64.3
                                                                                        [,128]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.2
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.5
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         96.6
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         95.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         69.6
                                                                                        [,129]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.2
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         78.8
                                                                                        [,130]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         86.6
                                                                                        [,131]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         84.3
                                                                                        [,132]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         86.8
                                                                                        [,133]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.9
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.5
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         83.4
```

dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         96.0
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         88.1
                                                                                        [,136]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         92.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         91.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         91.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         93.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         89.0
                                                                                        [,137]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         96.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         94.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         94.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         95.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         91.3
                                                                                        [,138]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         92.2
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         90.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         90.3
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         91.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         87.5
                                                                                        [,139]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         92.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         91.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         91.5
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         92.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         88.4
                                                                                        [,140]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         96.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         95.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         92.2
                                                                                        [,141]
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb

dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb

dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb

[,134]

96.0

95.8

95.7

95.6

86.9<sup>6</sup>

96.5

95.1

```
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         97.9
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         94.3
                                                                                        [,142]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.3
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         95.0
                                                                                        [,143]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         94.2
                                                                                        [,144]
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.9
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         89.8
                                                                                        [,145]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         96.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         82.5
                                                                                        [,146]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         95.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.7
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         74.3
                                                                                        [,147]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         94.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         90.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         94.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         94.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         61.0
                                                                                        [,148]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         90.8
```

```
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         86.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         92.8
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         91.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         57.1
                                                                                        [,149]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         90.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         83.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         91.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         89.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         52.6
                                                                                        [,150]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         85.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         83.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         90.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         86.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         51.5
                                                                                        [,151]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         90.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         88.88
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         93.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         91.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         58.6
                                                                                        [,152]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         94.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         92.8
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         96.0
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         94.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         67.0
                                                                                        [,153]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         95.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         93.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.2
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         95.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         70.0
                                                                                        [,154]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         82.7
                                                                                        [,155]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.0
```

```
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         88.6
                                                                                        [,156]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         94.6
                                                                                        [,157]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.7
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         95.4
                                                                                        [,158]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         94.8
                                                                                        [,159]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.5
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         93.1
                                                                                        [,160]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         91.1
                                                                                        [,161]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.4
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         91.7
                                                                                        [,162]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.7
```

```
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       98.2
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       98.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      86.5
                                                                                      [,164]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      98.5
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                      98.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                      98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                      98.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      84.3
                                                                                      [,165]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      97.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                      97.0
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                      97.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                      97.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      76.1
                                                                                      [,166]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      95.6
                                                                                      92.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                      94.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       95.0
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                      68.6
                                                                                      [,167]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      94.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                      92.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       94.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                      94.7
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                      70.2
                                                                                      [,168]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      97.7
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                       96.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                       97.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                      97.6
74.6
                                                                                      [,169]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                      97.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                      97.1
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                      97.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                       97.6
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb

97.8

89.3 [,163]

98.5

```
[,170]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         81.3
                                                                                        [,171]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.2
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         84.9
                                                                                        [,172]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.4
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         88.4
                                                                                        [,173]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         91.6
                                                                                        [,174]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         92.6
                                                                                        [,175]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.5
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         90.9
                                                                                        [,176]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.4
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         91.5
```

dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb

```
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         95.8
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         74.7
                                                                                        [,179]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         96.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         94.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         72.9
                                                                                        [,180]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         94.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         92.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         95.0
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         93.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         64.0
                                                                                        [,181]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         96.1
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         94.7
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         95.5
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         94.9
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         70.6
                                                                                        [,182]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.3
                                                                                         97.8
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         82.2
                                                                                        [,183]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         77.0
                                                                                        [,184]
```

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb

dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb

dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_002\_alphafold2\_multimer\_v3\_model\_5\_seed\_000.pdb

dimer\_23119/dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb

[,177]

97.5

96.6

97.5

97.4

84.9<sup>6</sup>

95.8

94.0

```
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.6
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.6
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         78.2
                                                                                        [,185]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.7
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.0
dimer 23119/dimer 23119 unrelaxed rank 005 alphafold2 multimer v3 model 3 seed 000.pdb
                                                                                         76.5
                                                                                        [,186]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.8
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         98.2
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         67.8
                                                                                        [,187]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         76.0
                                                                                        [,188]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.6
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         98.3
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         76.0
                                                                                        [,189]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         98.1
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         69.8
                                                                                        [,190]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         97.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         66.8
                                                                                        [,191]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
```

```
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         98.1
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         69.5
                                                                                        [,192]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.5
dimer 23119/dimer 23119 unrelaxed rank 002 alphafold2 multimer v3 model 5 seed 000.pdb
                                                                                         96.8
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.1
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         63.7
                                                                                        [,193]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         97.1
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         96.3
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         96.9
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         95.0
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         52.6
                                                                                        [,194]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.0
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.1
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         97.5
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.4
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         48.1
                                                                                        [,195]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.5
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.9
dimer 23119/dimer 23119 unrelaxed rank 003 alphafold2 multimer v3 model 4 seed 000.pdb
                                                                                         97.8
dimer 23119/dimer 23119 unrelaxed rank 004 alphafold2 multimer v3 model 1 seed 000.pdb
                                                                                         96.7
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         39.0
                                                                                        [,196]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         98.4
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         97.3
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         97.1
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         96.5
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         34.5
                                                                                        [,197]
dimer_23119/dimer_23119_unrelaxed_rank_001_alphafold2_multimer_v3_model_2_seed_000.pdb
                                                                                         97.6
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         95.6
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb
                                                                                         96.8
dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb
                                                                                         94.8
dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
                                                                                         30.5
                                                                                        [,198]
dimer 23119/dimer 23119 unrelaxed rank 001 alphafold2 multimer v3 model 2 seed 000.pdb
                                                                                         93.3
dimer_23119/dimer_23119_unrelaxed_rank_002_alphafold2_multimer_v3_model_5_seed_000.pdb
                                                                                         89.1
```

```
dimer_23119/dimer_23119_unrelaxed_rank_003_alphafold2_multimer_v3_model_4_seed_000.pdb dimer_23119/dimer_23119_unrelaxed_rank_004_alphafold2_multimer_v3_model_1_seed_000.pdb dimer_23119/dimer_23119_unrelaxed_rank_005_alphafold2_multimer_v3_model_3_seed_000.pdb
```

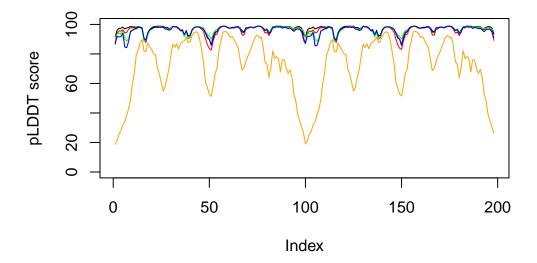
95.6

91.0

26.3

We can make a plot to analyze the different dimers

```
plot(pdbs$b[1,], typ="l", ylim=c(0,100), ylab="pLDDT score")
lines(pdbs$b[2,], typ="l", col="red")
lines(pdbs$b[3,], typ="l", col="green")
lines(pdbs$b[4,], typ="l", col="blue")
lines(pdbs$b[5,], typ="l", col="orange")
```



#### **Custom Analysis of Resulting Models**

Let's find just the pdb files in our AlphaFold file:

- [1] "dimer\_23119\_unrelaxed\_rank\_001\_alphafold2\_multimer\_v3\_model\_2\_seed\_000.pdb"
- $\label{lem:condition} \begin{tabular}{ll} [2] & "dimer_23119\_unrelaxed\_rank_002\_alphafold2\_multimer_v3\_model_5\_seed_000.pdb" \\ \end{tabular}$
- [3] "dimer\_23119\_unrelaxed\_rank\_003\_alphafold2\_multimer\_v3\_model\_4\_seed\_000.pdb"
- [4] "dimer\_23119\_unrelaxed\_rank\_004\_alphafold2\_multimer\_v3\_model\_1\_seed\_000.pdb"
- [5] "dimer\_23119\_unrelaxed\_rank\_005\_alphafold2\_multimer\_v3\_model\_3\_seed\_000.pdb"

We can view their sequence using bio3d:

# library(bio3d) pdbs

[Truncated_Name:1]dimer_2311 [Truncated_Name:2]dimer_2311 [Truncated_Name:3]dimer_2311 [Truncated_Name:4]dimer_2311 [Truncated_Name:5]dimer_2311	1 50  PQITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI PQITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI PQITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI PQITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI PQITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGI **********************************			
	51 100			
[Truncated_Name:1]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNFP			
[Truncated_Name:2]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNFP			
[Truncated_Name:3]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNFP			
[Truncated_Name:4]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNFP			
[Truncated_Name:5]dimer_2311	GGFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNFP			
******************************				
	51 100			
	101			
[Truncated_Name:1]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGIG			
[Truncated_Name:2]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGIG			
[Truncated_Name:3]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGIG			
[Truncated_Name:4]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGIG			
[Truncated_Name:5]dimer_2311	QITLWQRPLVTIKIGGQLKEALLDTGADDTVLEEMSLPGRWKPKMIGGIG			
	*************			
	101			
	151 198			
[Truncated_Name:1]dimer_2311	GFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF			
[Truncated_Name:2]dimer_2311 GFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF				
[Truncated_Name:3]dimer_2311	GFIKVRQYDQILIEICGHKAIGTVLVGPTPVNIIGRNLLTQIGCTLNF			

We can measure the distance between the dimers using a RMSD matrix and the rmsd() function:

```
rd <- rmsd(pdbs, fit=T)
```

Warning in rmsd(pdbs, fit = T): No indices provided, using the 198 non NA positions

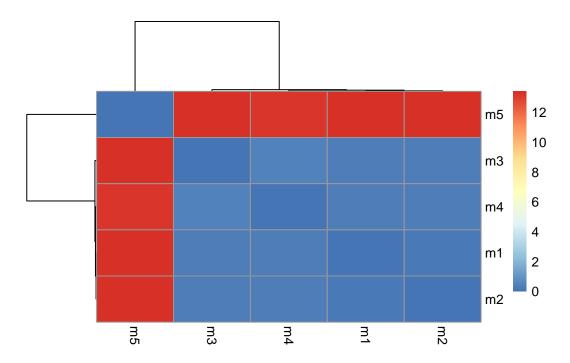
```
range(rd)
```

```
[1] 0.000 13.406
```

We can then use the RMSD data to create a heatmap showing the similarities between the models.

```
library(pheatmap)

colnames(rd) <- paste0("m",1:5)
rownames(rd) <- paste0("m",1:5)
pheatmap(rd)</pre>
```

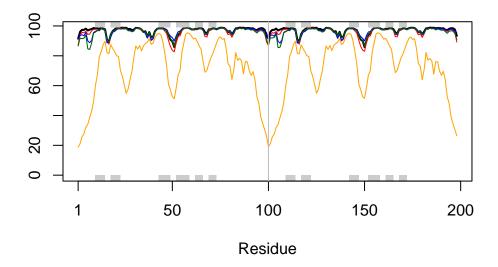


Let's create a pLDDT plot too:

```
pdb <- read.pdb("1hsg")</pre>
```

Note: Accessing on-line PDB file

```
plotb3(pdbs$b[1,], typ="l", lwd=2, sse=pdb)
points(pdbs$b[2,], typ="l", col="red")
points(pdbs$b[3,], typ="l", col="blue")
points(pdbs$b[4,], typ="l", col="darkgreen")
points(pdbs$b[5,], typ="l", col="orange")
abline(v=100, col="gray")
```



We can use the core.find() function to find the core atom positions of the protein:

#### core <- core.find(pdbs)</pre>

```
core size 197 of 198
                      vol = 32.323
core size 196 of 198
                      vol = 28.916
                      vol = 27.276
core size 195 of 198
core size 194 of 198
                      vol = 25.733
                      vol = 24.724
core size 193 of 198
core size 192 of 198
                      vol = 23.805
core size 191 of 198
                      vol = 23.128
core size 190 of 198
                      vol = 22.502
core size 189 of 198
                      vol = 21.867
core size 188 of 198
                      vol = 21.293
                      vol = 20.774
core size 187 of 198
core size 186 of 198
                      vol = 20.305
core size 185 of 198
                      vol = 19.783
core size 184 of 198
                      vol = 19.353
core size 183 of 198
                      vol = 18.94
core size 182 of 198
                      vol = 18.539
core size 181 of 198
                      vol = 18.097
core size 180 of 198
                      vol = 17.694
core size 179 of 198
                      vol = 17.257
```

```
core size 178 \text{ of } 198 \text{ vol} = 16.867
core size 177 of 198
                      vol = 16.519
core size 176 of 198
                      vol = 16.237
core size 175 of 198
                      vol = 15.978
core size 174 of 198
                      vol = 15.693
core size 173 of 198
                      vol = 15.412
core size 172 of 198
                      vol = 15.174
core size 171 of 198
                      vol = 14.957
core size 170 of 198
                      vol = 14.733
                      vol = 14.532
core size 169 of 198
                      vol = 14.363
core size 168 of 198
core size 167 of 198
                      vol = 14.222
core size 166 of 198
                      vol = 13.981
core size 165 of 198
                      vol = 13.885
core size 164 of 198
                      vol = 13.822
core size 163 of 198
                      vol = 13.736
core size 162 of 198
                      vol = 13.646
                      vol = 13.58
core size 161 of 198
core size 160 of 198
                      vol = 13.46
core size 159 of 198
                      vol = 13.261
core size 158 of 198
                      vol = 13.076
core size 157 of 198
                      vol = 12.91
core size 156 of 198
                      vol = 12.971
core size 155 of 198
                      vol = 12.926
core size 154 of 198
                      vol = 12.892
core size 153 of 198
                      vol = 12.769
core size 152 of 198
                      vol = 12.648
core size 151 of 198
                      vol = 12.53
core size 150 of 198
                      vol = 12.326
core size 149 of 198
                      vol = 12.104
core size 148 of 198
                      vol = 11.905
core size 147 of 198
                      vol = 11.473
core size 146 of 198
                      vol = 11.155
core size 145 of 198
                      vol = 10.956
core size 144 of 198
                      vol = 10.755
core size 143 of 198
                      vol = 10.546
core size 142 of 198
                      vol = 10.276
core size 141 of 198
                      vol = 10.066
core size 140 of 198
                      vol = 9.835
core size 139 of 198
                      vol = 9.619
core size 138 of 198
                      vol = 9.405
core size 137 of 198
                      vol = 9.142
core size 136 of 198 vol = 8.863
```

```
core size 135 of 198 vol = 8.526
core size 134 of 198
                      vol = 8.229
core size 133 of 198
                      vol = 7.998
core size 132 of 198
                      vol = 7.809
core size 131 of 198
                      vol = 7.509
core size 130 of 198
                      vol = 7.288
core size 129 of 198
                      vol = 7.084
core size 128 of 198
                      vol = 6.88
core size 127 of 198
                      vol = 6.59
core size 126 of 198
                      vol = 6.38
core size 125 of 198
                      vol = 6.197
core size 124 of 198
                      vol = 5.976
core size 123 of 198
                      vol = 5.764
core size 122 of 198
                      vol = 5.568
core size 121 of 198
                      vol = 5.312
core size 120 of 198
                      vol = 5.021
core size 119 of 198
                      vol = 4.758
                      vol = 4.501
core size 118 of 198
core size 117 of 198
                      vol = 4.218
core size 116 of 198
                      vol = 4.031
core size 115 of 198
                      vol = 3.801
core size 114 of 198
                      vol = 3.604
core size 113 of 198
                      vol = 3.379
core size 112 of 198
                      vol = 3.183
core size 111 of 198
                      vol = 3.002
core size 110 of 198
                      vol = 2.79
core size 109 of 198
                      vol = 2.603
core size 108 of 198
                      vol = 2.508
core size 107 of 198
                      vol = 2.421
core size 106 of 198
                      vol = 2.24
core size 105 of 198
                      vol = 2.084
core size 104 of 198
                      vol = 1.945
core size 103 of 198
                      vol = 1.832
core size 102 of 198
                      vol = 1.659
                      vol = 1.582
core size 101 of 198
core size 100 of 198 vol = 1.483
core size 99 of 198
                    vol = 1.382
core size 98 of 198
                     vol = 1.331
core size 97 of 198
                     vol = 1.264
core size 96 of 198
                     vol = 1.137
core size 95 of 198
                     vol = 1.043
core size 94 of 198
                     vol = 0.957
core size 93 of 198 vol = 0.885
```

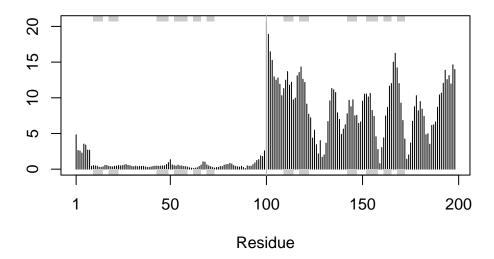
```
# 89 positions (cumulative volume <= 0.5 Angstrom^3)
start end length
1    10    42    33
2    44    50     7
3    52    66    15
4    69    77    9
5    80    98    19
```

we can then measure the conformational varience using the RMSF and plotting it to examine which chain is more similar or more variable:

```
xyz <- pdbfit(pdbs, core.inds, outpath="corefit_structures")

rf <- rmsf(xyz)

plotb3(rf, sse=pdb)
abline(v=100, col="gray", ylab="RMSF")</pre>
```



As seen in the graph, the second chain is more variable than the first, and this can be confirmed when looking at the 3D model on Mol-star.

#### **Predicted Alignment Error for Domains**

Information on predicted alignment error (PAE) for domains can be found in the AlphaFold file. They are in the format json, thus jsonlite will be needed to read the files.

```
$names
[1] "plddt" "max_pae" "pae" "ptm" "iptm"
```

### head(pae1\$plddt)

[1] 91.44 96.06 97.38 97.38 98.19 96.94

The lower the max PAE score the better...

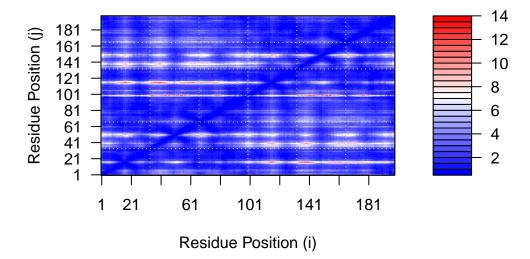
```
pae1$max_pae
```

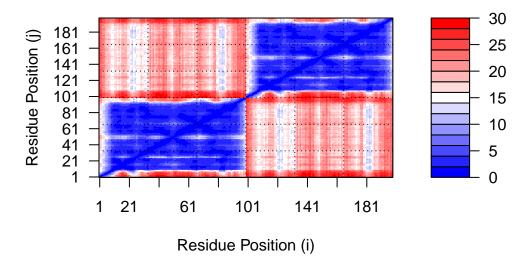
[1] 13.57812

#### pae5\$max\_pae

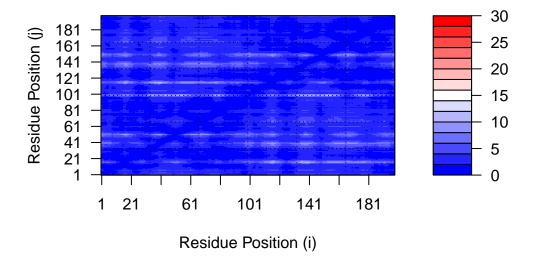
[1] 29.85938

We can plot residue positons for PAE1 and PAE5 using bio3D package plot.dmat:





We'll plot PAE1 again, but this time on the same data range as PAE5:



#### Residue Conservation from Alignment File

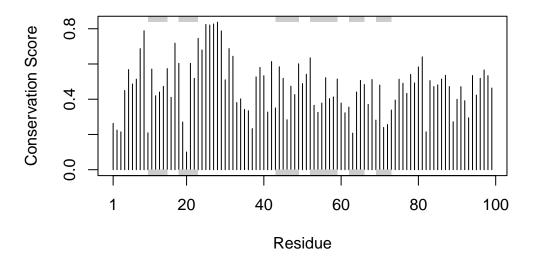
Let's open an alignment file from our AlphaFold data:

```
[1] " ** Duplicated sequence id's: 101 **"
[2] " ** Duplicated sequence id's: 101 **"
```

Let's find out how many sequences are in this alignment, and score the rsidue conservation using conserv():

```
dim(aln$ali)
```

[1] 5378 132



We can see what active site residues are conserved:

```
con <- consensus(aln, cutoff = 0.9)
con$seq</pre>
```

We can then view this conservation in Mol-star by making our data into a pdb file:

```
m1.pdb <- read.pdb(pdb_files[1])
occ <- vec2resno(c(sim[1:99], sim[1:99]), m1.pdb$atom$resno)
write.pdb(m1.pdb, o=occ, file="m1_conserv.pdb")</pre>
```